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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/922,021	08/02/2001	Shane Chen	BWD:7945.005	8654

7590 05/19/2004

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EXAMINER	
PARSLEY, DAVID J	

ART UNIT	PAPER NUMBER
3643	

DATE MAILED: 05/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/922,021	CHEN, SHANE	
	Examiner	Art Unit	
	David J Parsley	3643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 April 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) *1-7 and 29-31* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *8-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 August 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *8-2-01*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Detailed Action

Election/Restrictions

1. Applicant's election without traverse of claims 8-28 in the paper dated 4-16-04 is acknowledged.

Claims 1-7 and 29-31 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the paper dated 4-16-04.

Oath/Declaration

2. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:
It is not signed or dated by the applicant(s).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 8-9, 14-17, 21-24 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,151,374 to Delente et al. or U.S. Patent No. 5,956,896 to Miekka et al.

Referring to claims 8 and 15, Delente et al. and Miekka et al. disclose a method for providing carbon dioxide gas to a plant comprising, forming a chamber – at the interior of 11 of Delente et al. and – at 2 of Miekka et al., and enclosing at least a portion of the plant with the chamber – see for example column 3 lines 10-44 of Delente et al. and – see for example figures 1 and 5 of Miekka et al., providing a gas source – at 22 of Delente et al. and – proximate 8,12 or proximate 22 or 76 of Miekka et al., substantially free of carbon dioxide – see for example figure 1 of Delente et al. and column 3 lines 35-46 of Miekka et al., providing a carbon dioxide generator – at 11, 13, 19, 21, 28, 29 of Delente et al. and – at figures 3 and 6 of Miekka et al., in fluid communication with the chamber and the gas source – see figure 1 of Delente et al. and figures 1 and 5 of Miekka et al., the generator comprising a vessel – at 11 of Delente et al., and – at 19, 38, 44 or 80 of Miekka et al., containing an aqueous solution of at least one of hydrogen carbonate ions and carbonate ions – see for example column 4 lines 35-60 of Delente et al. and – at columns 3-4 of Miekka et al., producing carbon dioxide from the aqueous solution and mixing the carbon dioxide with the first gas to produce a gas mixture having a level of carbon dioxide and flowing the gas mixture into the chamber – see for example figure 1 of Delente et al. and figures 1-6 of Miekka et al.

Referring to claims 9 and 16, Delente et al. and Miekka et al. disclose the step of agitating the solution to produce the carbon dioxide – see proximate 13 of Delente et al., and figures 3 and 5 of Miekka et al.

Referring to claim 14, Delente et al. and Miekka et al. disclose the chamber has a carbon dioxide content of 0 to 4000ppm – see for example columns 3-4 of Delente et al. and columns 3-4 of Miekka et al.

Referring to claims 17 and 24, Delente et al. and Miekka et al. disclose the step of agitating comprises flowing a gas through the aqueous solution – see proximate 13 of Delente et al. and figures 3 and 6 of Miekka et al.

Referring to claims 21 and 27, Delente et al. and Miekka et al. disclose the step of flowing the aqueous solution through the vessel – see for example proximate 11-14 in figure 1 of Delente et al. and figures 3 and 6 of Miekka et al.

Referring to claim 22, Delente et al. Miekka et al. discloses the enclosure – at 11 of Delente et al. and – at 2 or 6 of Miekka et al., is a greenhouse – see for example figure 1 of Delente et al. and figures 1 and 5 of Miekka et al.

Referring to claim 23, Delente et al. and Miekka et al. disclose a method for providing carbon dioxide to an environment comprising, placing a carbon dioxide generator – at 11, 13, 19, 21, 28, 29 of Delente et al. and – at figures 3 and 6 of Miekka et al., in the environment, the generator comprising a vessel – at 11 of Delente et al., and – at 19, 38, 44 or 80 of Miekka et al., containing an aqueous solution of at least one of hydrogen carbonate ions and carbonate ions – see for example column 4 lines 35-60 of Delente et al. and – at columns 3-4 of Miekka et al., agitating the solution to produce carbon dioxide – proximate 13 of Delente et al. and see figures 3 and 6 of Miekka et al., wherein the carbon dioxide is produced without addition of acid to the aqueous solution – see columns 3-4 of Delente et al. and figure 6 and column 4 liens 46-59 of Miekka et al., and producing carbon dioxide from the aqueous solution in a sufficient quantity so

as to elevate the level of carbon dioxide in the environment – see for example figure 1 and columns 3-4 of Delente et al. and figure 6 and column 4 lines 46-59 of Miekka et al.

Claims 10-11, 13, 18, 20 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Miekka et al.

Referring to claim 10, Miekka et al. discloses the step of agitating the solution comprises flowing the first gas through the aqueous solution – see for example figures 3 and 5.

Referring to claims 11 and 18, Miekka et al. discloses the step of adding an acid to the solution to produce the carbon dioxide – see for example column 3 lines 62-67 and column 4 lines 1-12.

Referring to claims 13, 20 and 26, Miekka et al. discloses the step of adding a solid source of at least one of hydrogen carbonate ions and carbonate ions to the generator – see for example column 3 lines 15-67 and column 4 lines 1-12.

Claim 28 is rejected under 35 U.S.C. 102(b) as being anticipated by Delente et al. Delente et al. discloses the environment is a plant culturing environment – see for example columns 3-4.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 10-11, 13, 18, 20 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Delente et al. as applied to claims 8, 9, 15 and 23 above, and further in view of Miekka et al.

Referring to claim 10, Delente et al. further discloses flowing the first gas – at 22 through the aqueous solution – see figure 1. Delente et al. does not disclose the agitating of the solution comprises flowing the first gas through the solution. Miekka et al. does disclose the step of agitating the solution comprises flowing the first gas through the aqueous solution – see for example figures 3 and 5. Therefore it would have been obvious to one of ordinary skill in the art to take the method of Delente et al. and add the agitating of the solution comprises flowing the first gas through the solution of Miekka et al., so as to allow for the carbon dioxide gas to be quickly and efficiently created.

Referring to claims 11 and 18, Delente et al. does not disclose adding an acid to the solution. Miekka et al. does disclose the step of adding an acid to the solution to produce the carbon dioxide – see for example column 3 lines 62-67 and column 4 lines 1-12. Therefore it would have been obvious to one of ordinary skill in the art to take the method of Delente et al. and add the adding of acid to the solution of Miekka et al., so as to allow for the carbon dioxide gas to be quickly and efficiently created.

Referring to claims 13, 20 and 26, Delente et al. does not disclose the step of adding a solid source of at least one of hydrogen carbonate ions and carbonate ions to the generator. Miekka et al. does disclose the step of adding a solid source of at least one of hydrogen carbonate ions and carbonate ions to the generator – see for example column 3 lines 15-67 and column 4 lines 1-12. Therefore it would have been obvious to one of ordinary skill in the art to

take the method of Delente et al. and add the adding of acid to the solution of Miekka et al., so as to allow for the carbon dioxide gas to be quickly and efficiently created.

Claims 12, 19 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Delente et al. or Miekka et al. as applied to claims 8, 15 and 23 above, and further in view of Miekka et al. Delente et al. and the embodiments of figures 3 and 6 of Miekka et al. do not disclose the generator comprises a fan. The embodiment of Miekka et al. in figure 1 does disclose a generator with a fan – at 14. Therefore it would have been obvious to one of ordinary skill in the art to take the device of Delente et al. or Miekka et al. and add the generator comprising a fan of the embodiment in figure 1 of Miekka et al., so as to allow for the carbon dioxide gas to be quickly distributed throughout the entire space of the chamber.

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miekka et al. as applied to claim 23 above, and further in view of Delente et al. Miekka et al. does not disclose the environment is a plant culturing environment. Delente et al. does disclose the environment is a plant-culturing environment – see for example columns 3-4. Therefore it would have been obvious to one of ordinary skill in the art to take the method of Miekka et al. and add the environment being a plant-culturing environment of Delente et al., so as to allow for the increased growth of the cultured plant.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to methods of providing carbon dioxide to plants in general:

U.S. Pat. No. 3,398,481 to Lake – shows two gases added to chamber

U.S. Pat. No. 3,673,733 to Allen – shows aqueous solution

U.S. Pat. No. 3,999,329 to Brais – shows carbonate ions

U.S. Pat. No. 4,245,433 to Sjostedt et al. – shows carbon dioxide in chamber

U.S. Pat. No. 4,255,897 to Ruthner – shows adding carbon dioxide to chamber

U.S. Pat. No. 4,332,105 to Nir – shows two gases added to chamber

U.S. Pat. No. 4,835,903 to Kuckens – shows carbon dioxide gas added to chamber

U.S. Pat. No. 4,900,678 to Mori – shows gas flowed through aqueous solution

U.S. Pat. No. 5,036,618 to Mori – shows adding carbon dioxide gas to chamber

U.S. Pat. No. 5,299,383 to Takakura et al. – shows adding two gases to chamber

GB Pat. No. 2037554 – shows adding carbon dioxide gas to chamber

JP Pat. No. 6-225638 – shows adding carbon dioxide gas to chamber

6. Any inquiry concerning this communication from the examiner should be directed to David Parsley whose telephone number is (703) 306-0552. The examiner can normally be reached on Monday-Friday from 7:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Poon, can be reached at (703) 308-2574.

Peter M. Poon
Supervisory Patent Examiner
Technology Center 3600

5/13/04